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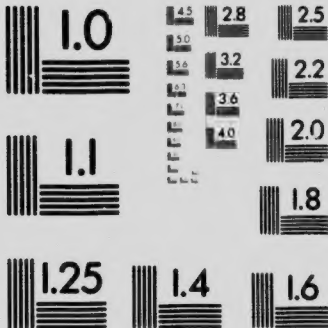


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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 326

MALT EXTRACTS.

CORRECTION.

Referring to Bulletin 308, page 14, sample No. 2728, the name of E. W. Gillet Co., Toronto, appears by mistake in the column headed "manufacturer."

J. B. Renaud & Cie., of Quebec, are the manufacturers.

A. MCGILL,
Chief Analyst.

00548703



NOTES AND COMMENTS.

Under this heading, as occasion arises, the Bulletins issued by this Department will contain, as an appendix, such comment as may seem necessary or advisable upon matters relating to the work of the Department in connection with the administration of the Adulteration Act, the Fertilizers Act, the Feeding Stuffs Act or the Proprietary Medicines Act.

It frequently happens that correspondents ask information regarding the above Acts, of such a nature that the matter in question possesses general interest, and comment upon it would prove acceptable and useful to others than the immediate questioner. In such cases the reply may find a place in these columns. For convenience of reference these notes will be numbered in series.

E. W.
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LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 326.

MALT EXTRACTS.

OTTAWA, 21st February, 1916.

J. U. VINCENT, Esq.,

Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon one hundred and fifty-two (152) samples purchased as Malt Extracts by our various Inspectors.

Malt Extract is not defined by the British Pharmacopœia. The British Pharmaceutical Codex of 1911 does, however, define Malt Extract (*Extractum Malti*) as follows:—

“A brown-yellow or light amber-coloured, thick, viscid liquid, having a faint pleasant characteristic odour, a sweet, mucilaginous taste, and a distinct acid reaction. Its diastatic activity is destroyed at temperatures above 65°C Specific Gravity about 1.375. Soluble in all proportions in water, the solution being precipitated by strong alcohol. Malt Extract consists chiefly of maltose (50 per cent or more) and dextrin, with some dextrose, and should also contain a fair proportion of diastase.”

This account of the article may be regarded as descriptive rather than definitive.

Malt Extract is described to much the same effect, in the United States Pharmacopœia (Eighth revision, 1900). No constants as to density, diastatic value, sugar content, etc., are stated.

Liquid Extract of Malt; is not a pharmacopœal preparation. It is described in the B. P. Codex as prepared from Extract of Malt, alcohol and distilled water. 100 parts of the liquid extract contain about 7.5 parts of alcohol. The specific gravity should be about 1.2.

With regard to the action and uses of Malt Extract I quote the following from the B.P. Codex of 1911, p. 402.

“The medicinal value of malt extract depends upon the proportion of total solid nutritive carbohydrates it contains, and upon its diastatic action, the latter enabling it to convert the starchy constituents of food into soluble carbohydrates, chiefly maltose. But the diastase becomes inactive in an acid medium such as obtains in the stomach during digestion. The extract is given to children and adults for its nutritive properties. Many of the extracts on the market contain no diastase, the ferment having been destroyed during evaporation.”

Among other reasons for the present (the first) systematic inspection of Malt Extracts, was the question whether a number of preparations more or less closely resembling Malt Extract were to be regarded, for purposes of revenue, as Drugs or as Foods. Malt Extract is very frequently employed as a vehicle for the administration

of drugs, such as Cod Liver Oil, Phosphates, Quinine, etc., and, of course, in such combinations it must be classified as a drug. When used *per se*, its main, if not its only claim to medicinal properties, is based upon its containing active diastase. In its sugar content it must be regarded as a food.

Of one hundred and fifty-two (152) samples now reported, only sixteen (16) can be regarded as fulfilling in any satisfactory degree, the requirements of an Extract of Malt. These contain solids varying from about 70 to 80 per cent, and the solids in question are mainly malt sugar, dextrin and dextrose. The characteristic results of these sixteen (16) samples are summarized in the following table:—

TABLE A.
Malt Extracts.

| No. | Solids. | Specific Gravity. | Diastatic Value. | Alcohol (Weight). |
|-------|---------|-------------------|------------------|-------------------|
| 54053 | 71.30 | 1.330 | 0.7 | 6.10 |
| 52140 | 80.36 | 1.418 | 112.6 | Nil. |
| 54054 | 78.20 | 1.408 | 56.0 | " |
| 66051 | 77.80 | 1.395 | 56.0 | " |
| 56366 | 78.20 | 1.400 | 56.0 | " |
| 67327 | 81.00 | 1.423 | 90.0 | " |
| 63610 | 78.84 | 1.408 | 53.0 | " |
| 66745 | 81.60 | 1.427 | 111.0 | " |
| 52143 | 82.16 | 1.431 | 99.9 | " |
| 63611 | 73.70 | 1.317 | 15.0 | 3.85 |
| 52145 | 71.84 | 1.322 | 39.1 | 3.11 |
| 66741 | 70.80 | 1.321 | 54.8 | 3.25 |
| 61802 | 81.60 | 1.424 | 54.6 | Nil. |
| 55277 | 81.72 | 1.425 | 54.7 | " |
| 61838 | 81.96 | 1.429 | 13.4 | " |
| 66754 | 83.16 | 1.447 | 13.6 | " |

It should here be stated that five samples of medicated Malt Extracts, purchased in error by Mr. Inspector Beland are not inserted in the above table. These bear numbers 56368 to 5672 inclusive.

Liquid Extract of Malt, is prepared as follows; under directions given in the B. P. Codex of 1911—(page 1180):—

| | |
|----------------------------------|--------------|
| Extract of Malt, by volume | 67.50 parts. |
| Alcohol | 7.50 |
| Distilled water to make | 100 |

The specific gravity should be about 1.2. Two alternative methods are given for preparation of Liquid Malt Extract. One from an aqueous infusion of malt, when the specific gravity of the resulting extract should be about 1.275; the other by percolation of the malt, in coarse powder, with alcohol diluted with three times its volume of water, until the percolate weighs three-fourths the weight of the malt used.

In order to obtain certain constants for Liquid Malt Extract, as directed in the B. P. Codex, two samples were prepared in the laboratories, from samples of Malt Extract numbered 63610 and 67327.

No. 63610 is a Kepler Extract, made by the Burroughs, Wellcome Co.; has specific gravity 1.408; contains 78.84 per cent solids; has a diastatic value of 53 degrees Lintner, and is free from alcohol.

No. 67327 is also a Kepler Extract, manufactured by Burroughs, Wellcome Co. It has specific gravity 1.423, contains 81.00 p.c. total solids; has diastatic value 99.9 Lintner and is free from alcohol.

The Liquid Extracts were prepared strictly according to the directions of the B.P. Codex as above and gave following results:—

| | Liquid Extract of Malt from 63610. from 67327. | |
|--|---|--------|
| Specific gravity..... | 1.2600 | 1.2625 |
| Alcohol (volume p.c.)..... | 6.70 | 6.986 |
| Specific gravity of extract dealcoholized..... | 1.282 | 1.2707 |
| Extractive (calculated)..... | 52.2 | 54.7 |

An examination of the analytical results found for 128 samples purchased as Malt Extract or as Liquid Malt Extract and comprising all the samples of this collection, except 16 which are reported in Table A, shows that only three samples can be regarded as Liquid Malt Extracts, in the sense of the B. P. Codex. The three samples in question bear the numbers 66050, 63655 and 52144, and give the following results:—

TABLE B.

Liquid Malt Extract.

| No. | Solids. | Specific Gravity. | Diastatic Value. | Alcohol (Weight). |
|--------------------------------------|---------|-------------------|------------------|-------------------|
| 66050 | 55.50 | 1.250 | 25.6 | 8.22 |
| 63655 | 58.51 | 1.245 | 20.0 | 9.43 |
| 52144 | 58.44 | 1.243 | 9.2 | 8.60 |
| Samples Prepared in Laboratory from— | | | | |
| 63610 | 53.20 | 1.260 | .... | 5.37 |
| 67327 | 54.70 | 1.263 | .... | 5.57 |

The present report deals with 152 samples, which may be classified as follows:—

| | |
|--------------------------------------|--------------|
| Genuine Extract of Malt | 16 samples. |
| Genuine Liquid Extract of Malt | 3 " |
| Medicated Extract of Malt | 5 " |
| Beverages sold as Malt Extract | 128 " |
| Total | 152 samples. |

Of the 128 samples which cannot be classed either as Malt Extract, or as Liquid Extract, the following may be said:—

1. They usually contain alcohol; the amount of which, stated as proof spirit, varies from about 4 per cent to about 12 per cent.
2. Extractive matter varies from about 5 to about 12 per cent—only 14 samples showing as much as 13 per cent.
3. Ordinary Ale (or beer) is required to contain at least 3.5 per cent solids, and an examination of published results (See I. R. Bulletins No. 52, 196 and 283) shows that the solids in Canadian made Ales, of good quality usually range from 4 to 6 per cent while alcohol (expressed as proof spirit) varies from about 7 to about 10 per cent.
4. None of these samples possess any diastatic value; consequently, in this respect, they do not differ from ordinary Beer or Ale.

In order to facilitate comparison between the so-called Malt Extracts of the class now under consideration, and ordinary Ales or Beers, the following table has been prepared.

TABLE C.

| Brand. | Number Samples Examined. | Alcohol as Proof Spirit. | Solids. |
|----------------------------|--------------------------------|-----------------------------|--------------|
| 1. Malt Nutritive..... | 5 | 2'94 | 15'67 tonic. |
| 2. Dr. Kilborn's..... | 1 | 7'36 | 6'19 beer. |
| 3. H. A. Brewery..... | 1 | 5'02 | 10'67 tonic. |
| 4. Cremomalt..... | 2 | 10'53 | 2'64 beer. |
| 5. Carling's..... | 20 | 7'09 | 6'14 beer. |
| 6. Maltevin..... | 7 | 5'33 | 12'44 tonic. |
| 7. Diamond..... | 1 | 7'49 | 5'23 beer. |
| 8. Goebel..... | 2 | 2'68 | 12'74 tonic. |
| 9. Hoffman..... | 1 | 9'18 | 5'35 beer. |
| 10. Prima Tonic..... | 1 | 10'26 | 4'43 beer. |
| 11. Blue Ribbon..... | 2 | 9'78 | 6'51 beer. |
| 12. Malta Labattine..... | 1 | 10'81 | 5'48 beer. |
| 13. Diastatic..... | 9 | 7'36 | 10'28 tonic. |
| 14. M. Bole..... | 1 | 7'87 | 9'00 beer. |
| 15. Miller's..... | 3 | 10'51 | 9'68 tonic. |
| 16. Dow's..... | 3 | 8'00 | 11'57 tonic. |
| 17. Oregon..... | 1 | 8'00 | 11'48 tonic. |
| 18. O'Keefe's..... | 5 | 11'40 | 9'27 beer. |
| 19. Palat..... | 16 | 7'66 | 11'19 tonic. |
| 20. Salvador..... | 7 | 7'65 | 5'30 beer. |
| 21. Dr. Charles..... | 1 | 5'58 | 10'12 tonic. |
| 22. Hofman..... | 1 | 8'00 | 5'04 beer. |
| 23. Schlitz..... | 2 | 7'93 | 9'11 beer. |
| 24. Silver Springs..... | 3 | 8'42 | 4'76 beer. |
| 25. Sleeman's Springs..... | 3 | 7'95 | 12'31 tonic. |
| 26. Walkerville..... | 2 | 11'62 | 6'29 beer. |
| 27. Wyeths..... | 26 | 4'81 | 12'53 tonic. |

These samples apparently represent 27 different brands; and I have already pointed out that none of them meet requirements for Liquid Malt Extract, under which name most of them are sold.

In several cases it would appear that the manufacturer has sought to produce a beverage somewhat more nutritious than ordinary beer; while in most cases the article does not essentially differ from a strong ale.

If we draw the line between an ordinary commercial ale, and a special ale, claiming tonic or nutritive qualities above ordinary ale, where may the line be drawn? This is, of course, a question which can only be acceptably answered after consultation with all parties interested in the matter.

I have ventured, to suggest that unless at least 10 per cent of nutritive solids remain in the product, it has no claim to be recognized as a special or tonic beverage. Many ordinary ales contain from 5 to 6 per cent of nutritive solids; and it would seem reasonable to require at least double of this amount to constitute a malt beverage, claiming any medicinal or tonic value.

On the above assumption, I find that 15 out of 27 brands named in Table C—should be sold as ale or beer; and should be placed on the market under the same conditions as ale or beer.

This conclusion has at present, no legal recognition, but I would respectfully ask for it the careful consideration of this department.

I would further suggest publication of this report as Bulletin No. 326.

I have the honour to be, Sir,

Your Obedient Servant,

A. MCGILL,

Chief Analyst.

BULLETIN No. 526—TABLE 1, PART I.—MALT EXTRACTS.

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cwt. | | Name and Address of Manufacturer or Furnisher as given by the Vendor. | Inspector's Report. (Is not an expression of opinion.) | Remarks and Opinion of the Chief Analyst. |
|---------------------|-------------------|----------------|-----------------------------|-------|-----------|---|--|---|
| | | | | Cent. | Quantity. | | | |

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.

| | | | | | | | | |
|---------|---------------|-------|---------------------------------------|-------|---------|--|--|--|
| 1915. | | | | | | | | |
| June 18 | Malt Extract. | 54051 | National Drug and Chem. Co., Halifax. | 3 | 3 bots. | 55 Carling B. and M. Co., London, Ont. | | |
| " 23 | " | 54052 | John Tobin & Co., Halifax. | 3 | " | 80 Pabst Brew. Co., Milwaukee. | | |
| " 30 | " | 54053 | B. F. Trask, Yarmouth. | 1 bot | 1 | 100 Parke, Davis Co., Walkerville. | | |
| July 9 | " | 54054 | Taylor Drug Co., Bridge water. | 1 | 1 | 25 Burroughs, Wellcome Co., London, Eng. | | Malt Extract. Low diastatic values and somewhat low solids. Malt Extract. Genuine. |

DISTRICT OF PRINCE EDWARD ISLAND—WM. WEEKS, INSPECTOR.

| | | | | | | | | |
|-------|---------------|-------|----------------------------------|---|---------|---|--|--|
| May 7 | Malt Extract. | 60190 | E. A. Foster, Charlottetown. | 3 | 3 bots. | 43 Reinhardt, Salvador Brewery Co., Toronto | | |
| " 7 | " | 60191 | " " " | 3 | " | 96 Pabst Brewery Co., Milwaukee. | | |
| " 7 | " | 60192 | C. D. Rankin, Charlottetown. | 3 | " | 78 Carling B. and M. Co., London, Ont. | | |
| " 10 | " | 60193 | George E. Hughes, Charlottetown. | 3 | " | 111 John Wych & Bros., Philadelphia. | | |

BULLETIN No 326—TABLE 1, PART 1.—MALT EXTRACTS.

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cent. | | Name and Address of Manufacturer or Furnisher as given by the Vendor. | Inspector's Report. (Is not an expression of opinion.) | Remarks and Opinion of the Chief Analyst. |
|---------------------|-------------------|----------------|-----------------------------|-----------|---------|---|---|---|
| | | | | Quantity. | Centre. | | | |

| | | | | | | | | |
|--|-----------------|-------|--|---------|------|-------------------------------|--|--|
| DISTRICT OF QUEBEC PROVINCE—N. CADIEUX, A. PELLETTIER, TEMPORARY INSPECTORS. | | | | | | | | |
| 1915. | | | | | | | | |
| April 28 | Extrait de Malt | 273 | J. N. Desjardins, St. Jérôme | 3 bota. | 1-11 | John Wyeth & Bros., Montreal. | | |
| May 4 | " | 281 | F. D. Hall, Ste. Agathe des Monts. | 3 " | 98 | Carling | | |
| " 4 | " | 287 | Dr. Ed. Grignon, Ste Agathe des Monts. | 3 " | 78 | Lyman's, Ltd. | | |
| " 22 | Malt Extract. | 56457 | Fraser's Drug Co., Fraser ville. | 3 " | 75 | Lyman's, Ltd., Montreal. | | |
| " 22 | " | 56463 | Ed. Cloutier, Fraser ville | 3 " | 90 | The Carling Co., London, Ont. | | |
| June 1 | " | 56467 | John Kaine, Fraser ville. | 3 " | 1-06 | John Wyeth, Philadelphia. | | |

| | | | | | | | | |
|---|---------------|-------|--------------------------------|---------|----|-----------------------------|-----------------------|--|
| DISTRICT OF THREE RIVERS—DR. V. P. LAVALLEE, INSPECTOR. | | | | | | | | |
| May 1 | Malt Extract. | 67952 | Camille Barrett, Joliette | 3 bota. | 75 | Wyeth Bros., Philadelphia. | Lyman's, Montreal. | |
| " 4 | " | 67959 | J. T. Gaudet, Joliette. | 3 " | 75 | Davis & Lawrence. | | |
| " 5 | " | 67960 | A. L. Boucher, Joliette. | 3 " | 90 | Pabst Brew. Co., Milwaukee. | Lyman Knox, Montreal. | |
| " 6 | " | 67961 | C. L. Rivest, Joliette. | 3 " | 75 | Lyman's Ltd., Montreal. | | |
| " 5 | " | 67962 | J. O. Daviault, Berthierville. | 3 " | 90 | Wyeth Bros., Philadelphia. | Lyman's, Montreal. | |

" 5 " 67945 J. O. Daviault, Berthierville 3 " 90 Wyeth Bros., Philadelphia Lyman's, Montreal

| | | | | | | | | | |
|--------|---|-------|--------------------------------|-----|------|---------------------------|-------------------|---|---|
| " 26 | " | 67946 | L. P. Cropeau, Joliette | 3 " | 75 " | " | " | " | " |
| " 15 | " | 67947 | William Perreault, Joliette | 3 " | 75 " | " | " | " | " |
| " 27 | " | 68105 | R. W. Williams, Three Rivers | 3 " | 90 | Lyman's, Ltd., Montreal | " | " | " |
| " 31 | " | 68106 | D. Carignan Fils, Three Rivers | 3 " | 75 | Wyeth Bros., Philadelphia | Lyman's, Montreal | " | " |
| June 1 | " | 68113 | J. A. Bovert, Joliette | 3 " | 90 | " | " | " | " |

DISTRICT OF MONTREAL—D. J. KEARNEY, INSPECTOR

| | | | | | | | | | |
|----------|---------------|-------|---|------|--------------------------------|---|---------------|---|------------------------|
| April 26 | Malt Extract. | 67316 | Dr. Miller, 1900 Masson St., 3 lots, Rosemont | 76 | National Breweries, Ltd. | " | Nat. Drug Co. | " | Dow's |
| " 26 | " | 67317 | J. E. Morin, 927 Mt. Royal 3 " | 70 | " | " | " | " | Carling's |
| " 26 | " | 67318 | N. Cleroux, 738 Mt. Royal 4 " | 75 | John Wyeth & Bros. | " | " | " | Wyeth's |
| " 26 | " | 67319 | A. Lalonde, 536 Mt. Royal 3 " | 78 | Pabst Brewing Co. | " | " | " | Pabst |
| " 27 | " | 67320 | Outremont Pharmacy, 1195 3 " | 75 | Lyman's, Ltd. | " | " | " | Lyman's |
| " 27 | " | 67321 | Bernard St., Outremont | 75 | Co. Medicale St. Charles | " | " | " | St. Charles |
| " 27 | " | 67322 | Martineau's Drug Store, 1068 3 " | 75 | " | " | " | " | Hosman's |
| " 27 | " | 67323 | J. H. Robert, 1185 St. Denis 3 " | 78 | Fred Miller Brew. Co. | " | " | " | Miller's |
| " 28 | " | 67324 | P. R. Thomas, 384 Bleury 3 " | 78 | Reinhardt Salvador Brewing Co. | " | " | " | Hofman |
| " 29 | " | 67325 | Fraser, Viger & Co., Montreal | 90 | Anheuser Bush | " | " | " | Malt Nutrine |
| " 29 | " | 67326 | P. R. Thomas, 384 Bleury St., 3 " | 1-11 | O'Keefe's Brew. Co. | " | " | " | O'Keefe's |
| " 29 | " | 67327 | Burroughs Wellcome Co., 384 3 " | 1-30 | Vendors | " | " | " | Kepler |
| " 29 | " | | Bleury St., Montreal | | | | | | Malt Extract. Genuine. |

DISTRICT OF EASTERN TOWNSHIPS—J. J. COSTIGAN, ACTING INSPECTOR.

| | | | | | | | | | |
|--------|---------------|-------|---------------------------|--------|------|------------------------------------|---|---|---------------|
| May 11 | Malt Extract. | 58140 | D. W. Stensan, Sherbrooke | 3 lots | 1-05 | Davis Lawrence Co., Montreal | " | " | Maltovin |
| " 11 | " | 58147 | " | 3 " | 45 | Silver Springs Brewery, Sherbrooke | " | " | Silver Spring |

BULLETIN No. 326—TABLE I, PART I—MALT EXTRACTS.

| Date of Collection. | Nature of Sample. | Name and Address of Vendor. | No. of Sample. | Name and Address of Manufacturer or Furnisher as given by the Vendor. | | Inspector's Report. (Is not an expression of opinion.) | Remarks and Opinion of the Chief Analyst. |
|---------------------|-------------------|-----------------------------|----------------|---|-----------|---|---|
| | | | | Cent. | Quantity. | | |

| | | | | | | | |
|---|----------------|---------------------------------------|---------|------|--------------------------------|-----------------|--|
| DISTRICT OF EASTERN TOWNSHIP—Concluded. | | | | | | | |
| 1915 | | | | | | | |
| May 11 | Malt Extract.. | 58149 A. E. DuBerger, Sherbrooke. | 3 bota. | 1 46 | John Wyeth Bros..... | Wyeth's..... | |
| " 11 | " | 58149 " " " | 3 " | 75 | Pabst Brew. Co., Milwaukee. | Pabst..... | |
| " 12 | " | 58150 B. N. Robinson, Coaticook. | 3 " | 78 | Carling B. & M. Co., Montreal. | Carling's..... | |
| " 12 | " | 58151 E. C. Drolet, Coaticook..... | 3 " | 75 | Lynan's Ltd., Montreal. | Dianstasic..... | |
| " 25 | " | 58152 G. Richard, Sherbrooke..... | 3 " | 75 | " | Dow's..... | |
| " 31 | " | 58153 Pharmacie Viger, St. Hyacinthe. | 3 " | 75 | Lynan's Ltd. | " | |

| | | | | | | | |
|---|----------------|---------------------------------------|----|----|----------------------------------|------------------|--|
| DISTRICT OF VALLEYFIELD—J. J. COSTIGAN, ACTING INSPECTOR. | | | | | | | |
| June 16 | Malt Extract.. | 40572 Tourangeau & Champagne, 3 bota. | 90 | | Pabst..... | | |
| " 15 | " | 40573 J. Duval, Buckingham. | " | 80 | " | Wyeth's..... | |
| " 23 | " | 57944 P. P. Salouin, St. Johns.... | " | 78 | " | Maltovin..... | |
| " 23 | " | 57945 Wight & Co..... | " | 75 | " | Dow's..... | |
| " 24 | " | 57947 Dr. Gauthier, Valleyfield.... | " | 75 | Independent Brew. Assn. Chicago. | Prima Tonic..... | |

BULLETIN No. 326—TABLE I, PART I.—MALT EXTRACTS.

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cont. | | Name and Address of Manufacturer or Furnisher as given by the Vendor. | Inspector's Report's. (Is not an expression of opinion.) | Remarks and Opinion of the Chief Analyst. |
|---------------------|-------------------|----------------|-----------------------------|-----------|---------|---|--|---|
| | | | | Quantity. | Contra. | | | |

| | | | | | | | | |
|--------------------------------|---------------|-------|--|---------|--|--|-------------|--|
| DISTRICT OF TORONTO—Concluded. | | | | | | | | |
| 1915. | | | | | | | | |
| May 15 | Malt Extract. | 67063 | G. A. Ramsden, Midland | 3 bots. | | 78 Carling B. & M. Co., London. | | |
| " 19 | " | 67064 | Geo. Marshall, 137 Wilton Ave., Toronto. | " | | 47 Walkerville Brew. Co., Ltd., Walkerville. | | |
| " 19 | " | 67065 | The J. A. Lannon Drug Store, Jarvis & Queen, Toronto. | " | | 43 Berlin Lion Brewery, Berlin. | Dr. Kibbons | |
| " 19 | " | 67066 | F. S. Taylor, 293 Spadina Ave., Toronto. | " | | 78 O'Keefe Brew. Co., Toronto. | O'Keefe's | |
| " 20 | " | 67067 | R. H. Thompson, 1470 Yonge St., Toronto. | " | | 78 Goebel Brew. Co., Detroit. | | |
| " 21 | " | 67068 | A. J. McCall & Co., Queen and Church sts., Toronto. | " | | 78 Lyman's Ltd., Montreal. | Diatic | |
| " 21 | " | 67077 | The Robt. Simpson Co., Ltd. Yonge and Queen Sts., Toronto. | " | | 78 Lyman Brew. & Co., Ltd., Toronto. | Wyeth's | |

| | | | | | | | | |
|---|--------------|-------|----------------------------------|---------|--|------------------------------------|--------|--|
| DISTRICT OF HAMILTON—H. J. DAGER, ACTING INSPECTOR. | | | | | | | | |
| April 26 | Malt Extract | 66904 | R. Phillips & Son, Fergus. | 3 bots. | | 75 Carling B. & M. Co., London. | | |
| " 29 | " | 66925 | P. B. Moore, Paisley | 3 " | | 74 Unknown | Pale | |
| " 30 | " | 66926 | D. A. Cameron & Co., Owen Sound. | 3 " | | 78 Nat. Drug & Chem. Co., Toronto. | Goebel | |

[illegible]

DISTRICT OF WINDSOR --JOHN TALBOT, INSPECTOR.

| April 21 | Malt Extract | 54772 | W. R. Holmes, Clinton . . . | 3 | bots. | 90 | O'Keefe's, Toronto . . . | O'Keefe's. |
|----------|--------------|-------|------------------------------|---|-------|------|---------------------------------------|------------------|
| " 24 | " | 54782 | Alex. Wilson, Seaforth . . . | 3 | " | 1.05 | John Wyeth & Bros., Montreal. | |
| " 22 | " | 54784 | Chas. Aberhart, Seaforth . . | 3 | " | 75 | Carling B. & M. Co., London. | |
| " 23 | " | 54790 | C. Cunningham, St. Mary's . | 3 | " | 45 | John Lalath, London . . . | Malto Labattine. |
| " 25 | " | 54793 | Standard Drug Co., London . | 3 | " | 45 | Reinhardt Salvador Brew Co., Toronto. | Hofbrau . . . |
| " 25 | " | 54793 | T. N. Sumner, London . . . | 3 | " | 45 | Walkerville Brew. Co., Walkerville. | |
| " 25 | " | 54796 | W. T. Strong, London . . . | 3 | " | 75 | Pabst brew. Co., Milwaukee. | Pabst . . . |
| " 4 | " | 54813 | D. Donaldson, Sarnia . . . | 3 | " | 40 | Brit. Amer. Brew. Co., Windsor. | |
| May 5 | " | 54819 | J. M. Robie, Petrolia . . . | 3 | " | 78 | Sleeman & Sons, Guelph. | |

DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

| | | | | | | |
|----------|---------------|-------|--|---|------|-------------------------------------|
| April 26 | Malt Extract. | 61291 | Whaley Drug Store, Sargent's bottl ave., Winnipeg | 3 | 78 | Nat. Drug & Chem. Co., Hamilton |
| " | " | 61292 | J. R. Robinson, Elliot st., | 3 | 111 | John Wyeeth Bros., Man tral. |
| May 11 | " | 61293 | P. F. Braund, Portage ave., | 3 | 78 | Carling, London |
| " | " | 61294 | Smith's Drug Store, Souris | 3 | 1.56 | Martin Bole, Wynne Co., Winnipeg |
| " | " | 61295 | Maschpherson & Burnett, Souris | 3 | 1.06 | Davis & Lawrence, Mon tral |

BULLETIN No. 326—TABLE I, PART I.—MALT EXTRACT.

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Name and Address of Manufacturer or Furnisher as given by the Vendor. | | Inspector's Report. (Is not an expression of opinion.) | Remarks and Opinion of the Chief Analyst. |
|---------------------|-------------------|----------------|-----------------------------|-----------|--------|---|------------|---|---|
| | | | | Quantity. | Cents. | Manufacturer. | Furnisher. | | |

| | | | | | | | | | |
|---|---------------|-------|-----------------------------------|---------|------|----------------------------------|------------------|-------|-------|
| DISTRICT OF SASKATCHEWAN—L. H. HALL, INSPECTOR. | | | | | | | | | |
| 1915. | | | | | | | | | |
| April 27 | Malt Extract. | 68558 | Rooney's Pharmacy, Swift Current. | 3 bush. | 1.20 | John Wyeth & Bro., Philadelphia. | Nat. D. & C. Co. | ..... | ..... |
| " 28 | " | 68561 | C. H. Morrison, Gull Lake. | 3 " | 1.10 | Carling B. & M. Co., London. | ..... | ..... | ..... |
| May 1 | " | 68574 | L. C. Gilmour, Moose Jaw. | 3 " | 1.06 | Lyman's Ltd., Montreal. | ..... | ..... | ..... |

| | | | | | | | | | |
|--|---------------|-------|---------------------------------|---------|------|--------------------------------|-------|-----------|------------------------------|
| DISTRICT OF ALBERTA—A. W. R. MARKLEY, INSPECTOR. | | | | | | | | | |
| April 30 | Malt Extract. | 52140 | G. H. Graydon, Edmonton. | 3 bush. | 3.00 | Parker, Davis Co., Walkeville. | ..... | ..... | Malt Extract genuine. |
| " 30 | " | 52141 | " " " | 3 " | 1.20 | Palat, Milwaukee. | ..... | ..... | ..... |
| " 30 | " | 52142 | " " " | 3 " | 1.20 | John Wyeth & Bro., Montreal. | ..... | Wyeth's | Malt Extract genuine. |
| " 30 | " | 52143 | Findley Drug Co., Calgary. | 3 " | 2.25 | Burrough Wellcome Montreal. | ..... | Kepler. | Malt Extract Liquid genuine. |
| May 18 | " | 52144 | McDermid Drug Co., Calgary. | 3 " | 1.50 | Allen & Hanbury, London, Eng. | ..... | Bynn. | Malt Extract genuine. |
| " 18 | " | 52145 | " " " | 3 " | 3.45 | Maltine Mfg. Co., Toronto. | ..... | Maltine | Malt Extract genuine. |
| " 21 | " | 52153 | Nat. Drug & Chem. Co., Calgary. | 3 " | 55 | Carling B. & M. Co., London. | ..... | ..... | ..... |
| June 15 | " | 52158 | P. W. McNabb, Brooks. | 3 " | 1.05 | " " " | ..... | Carling's | ..... |

FOR THE YEAR 2001. STATE OF NEW YORK TO DISTRICT

[illegible]

DISTRICT OF VANCOUVER—E. J. MORGAN, INSPECTOR.

| | | | | | | | | | | |
|-----|----|---------------|-------|--|---------|---------|--|--|-----------------------|------------------------|
| May | 26 | Malt Extract. | 55276 | H. Ryal, Columbia St., New Westminster. | 3 bots. | 1 00 | Caring, London. | | Sold as Cream Malt. | Malt Extract, genuine. |
| " | 27 | " | 55277 | D. S. Curtis & Co., Columbia St., New Westminster. | 3 jars. | 1 00 | National Drug & Chemical Co., Vancouver. | | | |
| " | 27 | " | 55278 | McLennan's Drug Store, Columbia St., New Westminster. | 3 bots. | 1 00 | Unknown. | | | |
| " | 27 | " | 55279 | Owl Drug Co., Dunsmuir and Granville St., Vancouver. | 3 " | 1 06 | John Wyeth & Bros., Montreal. | | | |
| " | 27 | " | 55280 | Georgia Pharmacy, George and Granville St., Vancouver. | 3 " | 1 06 | Pabst Brewing Co., Milwaukeee. | | | |
| " | 27 | " | 55281 | Hudson's Bay Co., Granville St., Vancouver. | 3 " | 75 cts. | Jno. Schlitz Brewing Co., Milwaukeee. | | Schlitz's Malt Tonic. | |
| " | 28 | " | 55282 | W. M. Harrison & Co., Ltd., 19 Hastings St. W., Vancouver. | 3 " | 1 00 | Davis & Lawrence Co., Montreal. | | Maltowine. | |
| " | 28 | " | 55283 | " " " " | 3 " | 1 00 | Carl Hoffman, Hamburg, Germany. | | | |
| " | 28 | " | 55284 | Woodworth Dept. Stores, Hastings St., Vancouver. | 3 " | 1 06 | Anheuser Busch Brewing Assn., St. Louis. | | Malt Mixture. | |

DISTRICT OF VICTORIA—D. O'SULLIVAN, INSPECTOR.

| | | | | |
|--------|---------------|--|---|------------|
| May 27 | Malt Extract. | 66712 Windsor Cigary Co., 817 3 rd St., (Post St., Victoria. | 1 06 Pabst Brewing Co., Mil- waukee. | Pabst..... |
| May | | | | Pabst..... |

BULLETIN No. 326—TABLE I, PART I.—MALT EXTRACTS.

| Date of Collection. | Nature of Sample. | No. of Sample. | Name and Address of Vendor. | Cost. | | Name and Address of Manufacturer or Furnisher as given by the Vendor. | | Inspector's Report. (Is not an expression of opinion.) | Remarks and Opinion of the Chief Analyst. |
|---------------------------------|-------------------|----------------|--|-----------|--------|---|------------|---|---|
| | | | | Quantity. | Cents. | Manufacturer. | Furnisher. | | |
| DISTRICT OF VICTORIA—Continued. | | | | | | | | | |
| 1915. | | | | | | | | | |
| June 11 | Malt Extract | 66741 | F. J. Williams, 613 Fort St., Victoria. | 1 bot. | 1 25 | R. L. Gibson, Toronto. | | Maltine | Malt Extract, genuine. |
| " 14 | " | 66745 | Terry's Drug Store, 766 Fort St., Victoria. | " | " | 75 Burrington Wellcome London, Eng. | | Kepel. | Malt Extract, genuine. |
| " 14 | " | 66747 | Hall & Co., 702 Yates St., Vancouver. | 3 lbs. | 1 00 | Carling B. & M. Co. Lon- don. | | | |
| " 15 | " | 66751 | W. Jackson & Co., 1411 2 nd Ave., Vancouver. | 2 bot. | 80 | John Wyeth & Bros., Montreal. | | | |
| " 15 | " | 66753 | Douglas St., Vancouver. John Cochran, 1300 Douglas St., Vancouver. | 3 lbs. | 1 20 | Anheuser Busch, St. L. Louis. | | | |
| " 15 | " | 66754 | National Drug & Chemical Co., Victoria. | 1 " | 75 | Holden & Co., Montreal. | | Barlex | Malt Extract Diastatic value. Low, otherwise genuine. |
| " 21 | " | 66758 | H. O. Kirkham & Co., 741 3 rd Fort St., Victoria. | " | " | John Schlitz Brewing Co., Milwaukee. | | | |

BULLETIN No. 326—TABLE I, PART II—MALT EXTRACTS.

| Name of Inspectoral District. | Results of Analysis. | | | | | | | | | | No. of Sample. | Remarks and Opinion of the Chief Analyst. | | | | |
|-------------------------------------|----------------------|------------|------------|--------------|--------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-------|----------------|---|--|---------------|---|----------------|
| | Sp. gr. at 15.5°C. | Alcohol. | | Proof Spirit | Extract by weight. | Sp. gr. of Original Wort. | Extract in Original Wort. | Degree of Fer- mentation. | Reducing Sugar as Maltose. | Ash. | | | Phosphate, P ₂ O ₅ | Preservative. | Diastatic Value. | No. of Sample. |
| | | By Weight. | By Volume. | | | | | | | | | | | | | |
| Nova Scotia | 1.0280 | 3.49 | 4.26 | 7.47 | 7.33 | 1.0523 | 13.19 | 44.5 | 3.24 | p.c. | 0.304 | p.c. | None. | 54051 | Malt Extract. Low diastatic value and somewhat low color. Malt Extract, genuine. | |
| | 1.0383 | 3.66 | 4.58 | 8.03 | 7.23 | 1.0704 | 17.57 | 36.1 | 2.63 | p.c. | 0.376 | p.c. | None. | 54052 | | |
| | 1.1330 | 6.10 | 7.60 | 13.3 | 71.3 | | | | 57.44 | 1.560 | 0.790 | | | 54053 | | |
| Prince Edward Island | 1.408 | | | | 78.2 | | | | 63.25 | 1.200 | 0.515 | | | 54054 | | |
| New Brunswick | 1.0204 | 4.06 | 5.08 | 8.90 | 6.99 | 1.0562 | 14.16 | 50.6 | 2.24 | p.c. | 0.234 | p.c. | None. | 60190 | Malt Extract, genuine. | |
| | 1.0369 | 3.69 | 4.49 | 7.87 | 11.50 | 1.0709 | 17.68 | 35.0 | 2.38 | p.c. | 0.168 | p.c. | None. | 60191 | | |
| | 1.0179 | 3.30 | 4.14 | 7.25 | 6.09 | 1.0468 | 11.44 | 48.5 | 2.07 | p.c. | 0.232 | p.c. | None. | 60192 | | |
| | 1.0326 | 2.54 | 3.19 | 5.38 | 14.28 | 1.0738 | 19.33 | 22.0 | 8.53 | p.c. | 0.162 | p.c. | None. | 60193 | | |
| | 1.0362 | 3.92 | 4.90 | 8.59 | 10.80 | 1.0717 | 17.86 | 39.5 | 2.81 | p.c. | 0.292 | p.c. | None. | 60046 | | |
| | 1.0589 | 1.59 | 2.00 | 3.50 | 15.40 | 1.0712 | 17.75 | 13.2 | 7.71 | p.c. | 0.180 | p.c. | None. | 60047 | | |
| Quebec City | 1.0185 | 3.16 | 3.96 | 6.93 | 6.34 | 1.0467 | 11.62 | 46.1 | 2.53 | p.c. | 0.256 | p.c. | None. | 60048 | Malt Extract. Liquid gen- uine. Malt Extract, genuine. | |
| | 1.0475 | 3.16 | 3.70 | 4.74 | 12.92 | 1.0653 | 16.37 | 20.1 | 8.21 | p.c. | 0.308 | p.c. | None. | 60049 | | |
| | 1.250 | 8.22 | 10.2 | 17.9 | 55.50 | | | | 57.70 | 0.840 | 0.370 | | | 60050 | | |
| Quebec City | 1.385 | | | | 77.80 | 1.0775 | 19.12 | 40.0 | 62.98 | p.c. | 0.740 | p.c. | None. | 60051 | Malt Extract, genuine. | |
| | 1.0378 | 4.45 | 5.37 | 9.75 | 11.45 | 1.0442 | 11.30 | 53.4 | 8.35 | p.c. | 0.316 | p.c. | Salicylic | 60052 | | |
| | 1.0153 | 3.41 | 4.27 | 7.49 | 5.23 | 1.0675 | 16.16 | 35.0 | 2.67 | p.c. | 0.334 | p.c. | None. | 60053 | | |
| | 1.0375 | 3.45 | 4.32 | 7.58 | 19.93 | 1.0675 | 16.16 | 35.0 | 2.67 | p.c. | 0.176 | p.c. | None. | 60054 | | |
| | 1.0106 | 4.10 | 5.14 | 9.00 | 4.53 | 1.0470 | 11.89 | 62.0 | 1.13 | p.c. | 0.352 | p.c. | None. | 60055 | | |
| | 1.0271 | 5.10 | 6.37 | 11.16 | 9.03 | 1.0732 | 18.20 | 50.3 | 2.25 | p.c. | 0.204 | p.c. | None. | 60056 | | |
| | 1.0385 | 3.65 | 4.56 | 8.00 | 11.48 | 1.0713 | 17.77 | 35.4 | 8.37 | p.c. | 0.282 | p.c. | None. | 60057 | | |
| | 1.0449 | 2.36 | 2.98 | 5.19 | 12.19 | 1.0839 | 16.01 | 23.8 | 7.45 | p.c. | 0.317 | p.c. | None. | 60058 | | |
| | 1.0185 | 3.31 | 4.16 | 7.29 | 6.20 | 1.0474 | 11.98 | 48.2 | 63.54 | p.c. | 0.272 | p.c. | None. | 60059 | | |
| | 1.400 | | | | 78.20 | 1.0839 | 16.01 | 23.8 | 7.45 | p.c. | 0.360 | p.c. | None. | 60060 | | |
| Kopfer Malt | 1.400 | | | | | | | | | | | | | 56366 | Malt Extract, genuine. " " " " medicated. | |
| 56369 | | | | | | | | | | | | | | 56369 | | |

BULLETIN No. 326—TABLE I, PART II—MALT EXTRACTS.

| Name of Inspectoral District. | No. of Sample. | Results of Analysis. | | | | | | | | | | Remarks, and Opinion of the Chief Analyst. | | | |
|-------------------------------------|----------------|----------------------|------------|---------------|--------------------|---------------------|------------------------------|------------------------------|-------------------------------|-------|--|--|----------------------|-------------------------------------|----------------|
| | | Alcohol. | | Proof Spirit. | Extract by weight. | Sp. Gr. of Original | Extract in Original Wort. | Degree of ferment- ation. | Reducing Sugar as maltose. | Ash. | Phosphates P ₂ O ₅ . | | Preservatives. | Diastatic Value Degrees Lintner. | No. of Sample. |
| | | By weight. | By volume. | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Hamilton—Con. | 67000 | 1.0208 | 3.41 | 4.27 | 7.49 | 6.93 | 1.0500 | 12.85 | ... | p. c. | p. c. | ... | None. | 67000 | |
| | 67015 | 1.0182 | 4.06 | 5.08 | 8.90 | 6.52 | 1.0545 | 13.73 | ... | ... | ... | ... | " | 67015 | |
| | 67018 | 1.0184 | 2.17 | 2.72 | 4.76 | 11.94 | 1.0614 | 15.45 | ... | ... | ... | ... | " | 67018 | |
| | 54772 | 1.0172 | 5.75 | 7.17 | 12.57 | 6.99 | 1.0702 | 17.52 | ... | ... | ... | ... | " | 54772 | |
| | 54782 | 1.0483 | 2.39 | 3.06 | 5.25 | 13.24 | 1.0685 | 17.11 | ... | ... | ... | ... | " | 54782 | |
| Windsor | 54784 | 1.0483 | 3.41 | 4.27 | 7.49 | 5.80 | 1.0465 | 11.77 | ... | ... | ... | ... | " | 54784 | |
| | 54784 | 1.0164 | 4.94 | 6.17 | 10.81 | 5.48 | 1.0576 | 14.52 | ... | ... | ... | ... | " | 54784 | |
| | 54790 | 1.0126 | 4.34 | 5.41 | 9.11 | 4.71 | 1.0427 | 10.82 | ... | ... | ... | ... | " | 54790 | |
| | 54793 | 1.0121 | 3.47 | 4.34 | 7.61 | 5.87 | 1.0678 | 16.91 | ... | ... | ... | ... | " | 54793 | |
| | 54795 | 1.0125 | 6.00 | 7.48 | 13.11 | 5.87 | 1.0653 | 16.57 | ... | ... | ... | ... | " | 54795 | |
| Manitoba | 54796 | 1.0374 | 3.29 | 4.12 | 7.23 | 10.95 | 1.0594 | 14.59 | ... | ... | ... | ... | " | 54796 | |
| | 54613 | 1.0376 | 2.51 | 3.21 | 5.61 | 10.67 | 1.0594 | 14.59 | ... | ... | ... | ... | " | 54613 | |
| | 54619 | 1.0378 | 3.59 | 4.49 | 7.87 | 11.18 | 1.0606 | 17.38 | ... | ... | ... | ... | " | 54619 | |
| | 61291 | 1.0168 | 4.87 | 6.10 | 10.67 | 6.50 | 1.0611 | 15.38 | ... | ... | ... | ... | " | 61291 | |
| | 61292 | 1.0176 | 3.21 | 4.12 | 7.23 | 12.94 | 1.0651 | 16.27 | ... | ... | ... | ... | " | 61292 | |
| Saskatchewan. | 61293 | 1.0198 | 3.29 | 4.12 | 7.23 | 5.56 | ... | ... | ... | 1.16 | 0.21 | 0.060 | None. | 61293 | |
| | 61294 | 1.0346 | 3.59 | 4.49 | 7.87 | 9.00 | ... | ... | ... | 7.65 | 0.27 | 0.057 | Sul- phites | 61294 | |
| | 61295 | 1.0468 | 2.50 | 3.14 | 5.49 | 11.91 | ... | ... | ... | 8.56 | 0.38 | 0.168 | Trace. | 61295 | |
| | 66358 | 1.0483 | 1.94 | 2.43 | 4.26 | 13.04 | 1.0641 | 16.05 | ... | ... | ... | ... | " | 66358 | |
| | 66361 | 1.0202 | 2.78 | 3.49 | 6.10 | 6.47 | 1.0442 | 11.20 | ... | ... | ... | ... | " | 66361 | |
| Alberta | 66374 | 1.0349 | 2.44 | 3.07 | 5.37 | 3.97 | 1.0356 | 14.01 | ... | ... | ... | ... | " | 66374 | |
| | 52140 | 1.418 | 0.00 | ... | ... | 80.36 | ... | ... | ... | 62.16 | 2.00 | 0.90 | 0.90 | 52140 | |
| | 52141 | 1.0374 | 3.60 | 4.5 | 7.9 | 11.24 | ... | ... | ... | 2.57 | 0.37 | 0.18 | Salicy- lic acid. | 52141 | |
| | 52142 | 1.0441 | 2.24 | 2.8 | 5.0 | 12.35 | ... | ... | ... | 6.38 | 0.31 | 0.14 | " | 52142 | |
| Malt Extract. | 52143 | 1.431 | 0.00 | ... | ... | 82.16 | ... | ... | ... | 61.20 | 1.52 | 0.62 | " | 52143 | |
| | 52144 | 1.2434 | 8.60 | 10.7 | 18.8 | 58.44 | ... | ... | ... | 59.96 | 0.34 | 0.34 | " | 52144 | |
| | 52145 | 1.3216 | 3.11 | 3.9 | 6.8 | 71.84 | ... | ... | ... | 57.40 | 1.20 | 0.48 | " | 52145 | |
| | 52153 | 1.0173 | 3.35 | 4.2 | 7.4 | 5.81 | ... | ... | ... | 1.70 | 0.25 | 0.06 | Sulphur ous acid. | 52153 | |

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